Internet telephone terminal identification processing method - involves providing management number corresponding to each client terminal to server

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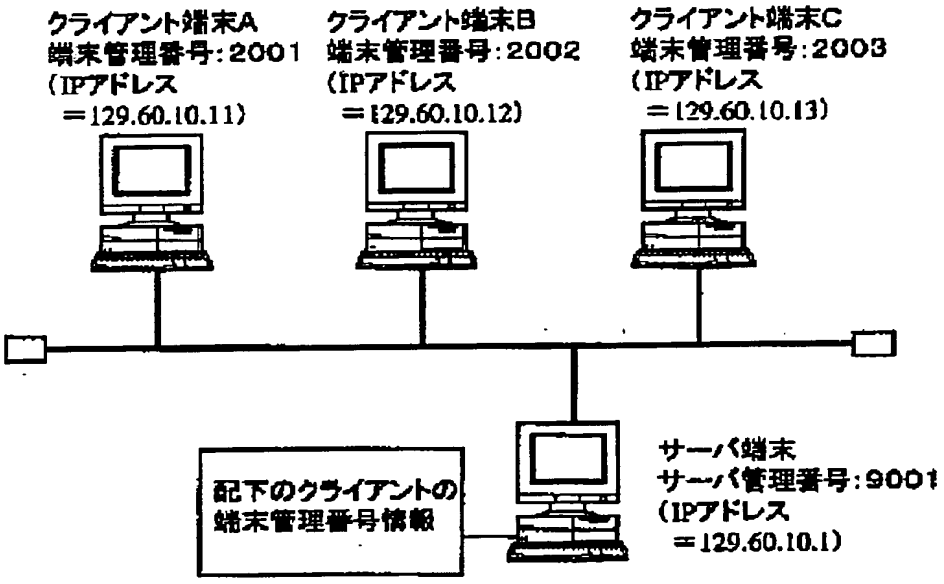
The method involves connecting clients to a server through LAN. The server has a management number corresponding to that of each client. The management number and the IP address of each client are stored in a terminal management table of the server.

The management number of the second client terminal is transmitted to the server terminal from the first client terminal. The server searches the terminal management table and responds the second client terminal with IP address corresponding to the management number of the second client terminal to the first client terminal.

ADVANTAGE - Enables simple designation of comparison terminal. (23pp Dwg.No.1/23)

N99-016990

W01-A03A1 W01-A06B5A W01-A06B7 W01-A06F W01-C05B3A



独自のLAN電話番号と管理用サーバ

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[The technical field to which invention belongs] this invention relates to the record medium which recorded the Internet telephone terminal identification art which discriminates a connection partner terminal at the time of the real-time data communication in LAN (Local Area Network) by Ethernet etc., its equipment, and its program.
[0002]
[Description of the Prior Art] Since LAN by Ethernet etc. was a network which performs the communication by packet data, originally it was a network unsuitable for real-time data communication, such as voice. However, the application of the modality of the Internet telephone which exchanges a voice data packet on real time within LAN has begun to appear in recent years.
[0003] When building LAN by Ethernet etc., it is common to build a network by TCP/IP protocol. At this time, the terminal connected to the network is usually discriminated using a terminal identification child called an IP address.
[0004] An IP address is expressed with three digits [four] (xxx is the numeric value of 0-255) divided by "." called xxx.xxx.xxx.xxx when expressed with a decimal digit.
[0005] Drawing 22 shows the example of an IP address. As shown in drawing, "129.060.010.010" is given to terminal A as an IP address (in addition, since it is easy, 0 of the head in every 3 figures is omitted, and referred to as "129.60.10.10" in drawing 22).
[0006]
[Problem(s) to be Solved by the Invention] In order to specify a connection partner by the above-mentioned Internet telephone etc., it is general technique to specify the IP address of a direct partner terminal at the time of call origination, or to specify a partner's e-mail address.
[0007] Drawing 23 shows the example of an e-mail address. However, when an IP address was used for connection partner point specification, a maximum of 12 digits of the thin IP address of concordance needed to be memorized to the common user, this needed to be inputted, and there was a trouble of being hard to use in man machine interface.
[0008] Moreover, although the IP address was a systematically important number and it was a number to release to the exterior a network is [externally] different, in using an IP address for connection partner point specification, there was a trouble where there was the need of releasing this outside.
[0009] Moreover, when connection partner point specification was made into an e-mail address, there was a trouble where a terminal was restricted to a personal computer and could not input that it is necessary to input the address by the usually quite long alphabet from the simple equipment like a telephone or FAX since a keyboard is required since it is an input.
[0010] Moreover, in order to simplify the input at the time of connection, a partner's identifier, the IP address of the partner point, etc. are beforehand registered into the communication application in a terminal (personal computer), and the method of referring to at the time of call origination is also used.
[0011] However, in order to perform this technique, there was a trouble where a terminal had the keyboards of the alphabet, such as a personal computer, and it could not input with the simple equipment which needs to be highly efficient equipment, like registration of data is made inside, and has neither a telephone nor a keyboard like FAX.
[0012] this invention is set to a real-time communication within LAN, in order to solve the above-mentioned trouble. Where it was made to specify the partner terminal in inputting the number which is easy to memorize to telephone number-human being when carrying out call origination to a partner terminal, and it simplified specification of a partner terminal and an IP address is hidden to the exterior With enabling specification of a partner terminal, moreover, the thing for which the telephone without the keyboard of the alphabet and a simple input unit like FAX also enable the input of partner terminal specification, Moreover, the single terminal management number is given to two or more terminals, and it aims at enabling it to process using a port number.
[0013]
[Means for Solving the Problem] In this invention, to the terminal in a network (client terminal), a numerical-designation child (terminal management number) like the telephone number other than an IP address is prepared, and the server terminal for managing this is placed into a network.
[0014] Moreover, in a network, since it is thought that two or more server terminals exist, the numerical-designation child (server management number) who discriminates the server terminal itself is prepared.
[0015] Drawing 1 shows the configuration which prepared the identifier in the case of this invention. If it contrasts with drawing 22 , the terminal management number "2001" is given to terminal A which has given the IP address "129.60.10.11" so that it may become clear. And let a server management number + terminal management number be the telephone number in LAN.
[0016] A server terminal has a means to describe the IP address of a terminal management number and the terminal corresponding to this, and has a means to return the IP address of the corresponding terminal, to the inquiry by the terminal management number. As a means to describe the IP address of this terminal management number and the

terminal corresponding to this, a terminal control table which is shown in drawing 2 is raised as an example.
[0017] Moreover, a server terminal has a means to describe the IP address of a server management number and the server terminal corresponding to this, and has a means to return the server management number of the corresponding server terminal, to the inquiry by the server management number. As a means to describe the IP address of this server management number and the server terminal corresponding to this, a server managed table which is shown in drawing 3 is raised as an example.
[0018] As a server terminal, the common personal computer and common work station with network IF can be used. The terminal (client terminal) of the side which telephones has a means to input the telephone number in LAN. Moreover, it has a means to memorize the IP address of the default server terminal which goes to ask first, at the time of call origination. And at the time of call origination, before carrying out call origination to a partner terminal, it has a means to ask the IP address of a partner terminal, using the telephone number in LAN inputted to the default server terminal.
[0019] Moreover, before going to a server to ask at the time of a means to record the IP address corresponding to the telephone number in LAN and it which carried out call origination to the past, and call origination, it has a means to refer to the IP address corresponding to the telephone number in LAN and it which were recorded in self-equipment, and the means which will omit an inquiry to a server terminal and will carry out direct call origination to a partner terminal if the call origination point at that time is recorded.
[0020] Moreover, one master server which manages all the related servers of a network is prepared in a server terminal. A master server has a means to distribute the information on the server management number within the end of a local to a subordinate's server terminal. Each server terminal has a means to receive the information sent from the master server, and a means to change the server management information in the end of a local into the content of this information.
[0021] At the time of call origination, the telephone number in LAN which consists of a server management number and a terminal management number is inputted from a client terminal. The terminal-connection equipment (TA equipment) which connects the personal computer with network IF, a general analog telephone, FAX, etc. to a network as a client terminal can be considered. A client terminal asks the IP address of a partner terminal by the inputted telephone number in LAN to a server terminal, before carrying out call origination to a partner terminal. The server terminal which received the inquiry searches within self-equipment, and returns the IP address of the corresponding terminal. A client terminal performs call origination to the terminal of this received IP address, and starts a communication after connection.
[0022] Thereby, at a client terminal, it is enabled to specify a partner terminal in inputting the telephone number-number of the telephone number in LAN, and is enabled to specify a partner terminal by simple technique compared with an IP address.
[0023] Moreover, it is enabled to hide an IP address from an user by using the telephone number in LAN as technique of discriminating a terminal. Moreover, since the telephone number in LAN is constituted only numerically, it becomes possible [using a simple input unit called a telephone and FAX as a client terminal].
[0024] Moreover, the telephone number in LAN which carried out call origination, and the IP address corresponding to it are recorded after a communication end. Next, if the call origination point at that time is first recorded with reference to record with the telephone number in LAN in self-equipment, and the IP address corresponding to it when carrying out call origination, an inquiry will be omitted and direct call origination will be carried out to a partner terminal. This enables it to shorten the time to the connection at the time of call origination.
[0025] Moreover, even if it is the case where the telephone number in LAN of each client terminal is changed, it also becomes possible to save the time which changes a setup of each client terminal one by one that what is necessary is to change only a setup of a server terminal.
[0026] Moreover, when there is change of a server terminal by the master server, it is enabled to share the right server management information between distributing this change information to other server terminals among each server.
[0027] Drawing 4 shows the mode which a master server distributes to each server terminal of a subordinate. In drawing 4 illustration, a master server carries out change information distribution to server terminal A, server terminal B, and server terminal C, and each server terminal is stored in a server managed table.
[0028]
[Embodiments of the Invention]
[Example 1] view 5 shows the 1st example of this invention.
[0029] In this example, it is one set of a server terminal, and is an example at the time of managing all client terminals. The server terminal, the client terminal 1, the client terminal 2, and the client terminal 3 are connected to LAN connected by Ethernet.
[0030] Here, as an example, the client terminal 1 connects a telephone (701) and it considers as the terminal-connection equipment (TA equipment) (702) which changes into a voice packet the analog voice inputted from the telephone (701), delivers to LAN, changes into analog voice the voice packet which received from LAN on the contrary, and is sent out to a telephone. A telephone (701) is connected to this terminal-connection equipment (TA equipment) (702), and the terminal management number of this terminal-connection equipment (TA equipment) (702) is set to "2001", and it sets an IP address to "129.60.10.11."

[0031] moreover, the client terminal 2 shall have the software (it calls as Internet telephone software hereafter) which is PC (703) with network IF and makes speech communication possible through a microphone (704), a loudspeaker (705), and internet The terminal management number of this PC (703) is set to "2002", and an IP address is set to "129.60.10.12."
[0032] Moreover, the client terminal 3 is considered as the configuration of the same terminal-connection equipment (TA equipment) (706) + telephone (707) as the client terminal 1, the terminal management number of this terminal-connection equipment (TA equipment) (706) is set to "2003", and an IP address is set to "129.60.10.13."
[0033] Moreover, the IP address of a server terminal (708) shall be set to "129.60.10.1", and there shall be a terminal control table (709) to which the above-mentioned terminal management number and above-mentioned IP address of a client terminal were made to correspond in this server terminal (708). Drawing 6 shows the example of a terminal control table (709).
[0034] Moreover, the IP address "129.60.10.1" of a server terminal (708) is registered into the client terminals 1-3. In telephoning from the client terminal 1 to the client terminal 3, it inputs the telephone number "2003" in LAN of the client terminal 3 (terminal management number) from the telephone (701) of the client terminal 1.
[0035] The terminal-connection equipment (TA equipment) (702) of the client terminal 1 asks the IP address by this telephone number "2003" in LAN (= terminal management number) to the server terminal (708) (= IP address "129.60.10.1") set up beforehand. TCP or UDP is used as a protocol of an inquiry.
[0036] A server terminal (708) searches the terminal control table (709) within the end of a local, obtains the IP address "129.60.10.13" of a terminal management number "2003", and returns this to the client terminal 1.
[0037] To this IP address "129.60.10.13", the terminal-connection equipment (TA equipment) (702) of the client terminal 1 will apply call origination, a voice data packet will be transmitted [after connection] and received to the terminal of this IP address, and if this IP address "129.60.10.13" is received, it will start the communication by the telephone (707) and voice which were connected to the terminal-connection equipment (TA equipment) (706) of the client terminal 3.
[0038] Like this example, those who telephone from the client terminal 1 should memorize only the telephone number "2003" in LAN of the client terminal 3 (terminal management number), time of an input decreases compared with the case where an IP address value is specified directly, and facility improves.
[0039] [Example 2] view 7 shows the 2nd example of this invention. this example is an example when two or more server terminals exist in a network.
[0040] Suppose that server terminal A, the client terminal A1, the client terminal A2, and the client terminal A3 are connected, server terminal B and the client terminal B1 are connected to LAN-B, and LAN-A and LAN-B are connected to LAN-A with the router (901).
[0041] The server management number of server terminal A (902) is set to "9001", an IP address is set to "120.60.10.1", the server management number of server terminal B (903) is set to "9002", and an IP address is set to "129.60.20.1."
[0042] When a head is "9" among four digits, it shall assign a server management number in this example, and when other, it shall assign it at a terminal management number. The client terminal A1 is used as a terminal-connection equipment (TA equipment) (904) + telephone (905), the terminal management number of this terminal-connection equipment (TA equipment) (904) is set to "2001", and an IP address is set to "129.60.10.11." The client terminal A2 is made into a PC(906)+ microphone (907) + loudspeaker (908), and the terminal management number of this PC (906) is set to "2002", and it sets an IP address to "129.60.10.12." The client terminal 3 is considered as a terminal-connection equipment (TA equipment) (909) + telephone (910) configuration like the client terminal A1, a terminal management number is set to "2003" and an IP address is set to "129.60.10.13."
[0043] Server terminal A has the correspondence table (terminal control table) (911) of the terminal management number of the above-mentioned client terminals A1-A3, and an IP address, and the correspondence table (server managed table) (912) of other servers' server management number, and an IP address. The example of a terminal control table (911) is shown in drawing 8 , and the example of a server managed table (912) is shown in drawing 9 .
[0044] Moreover, the IP address "129.60.10.1" of server terminal A is recorded on the client terminals A1-A3 as address of a server terminal. Moreover, the client terminal B1 is used as a terminal-connection equipment (TA equipment) (913) + telephone (914), the terminal management number of this terminal-connection equipment (TA equipment) (913) is set to "2001", and an IP address is set to "129.60.20.11."
[0045] Server terminal B (903) has the correspondence table (terminal control table) (915) of the terminal management number of the client terminal B1, and an IP address, and the correspondence table (server managed table) (916) of other servers' server management number, and an IP address. The example of a terminal control table (915) is shown in drawing 10 , and the example of a server managed table (916) is shown in drawing 11 .
[0046] The content of the server managed table (916) of server terminal B presupposes that it is the same as that of the content of the server managed table (912) of server terminal A. Moreover, the IP address "129.60.20.1" of server terminal B (903) is recorded on the client terminal B1 as address of a server terminal.
[0047] In telephoning from the client terminal A1 to the client terminal B1, it inputs the telephone number "90022001" in LAN of the client terminal B1 (server management number + terminal management number) from the telephone (905) of the client terminal A1.
[0048] The terminal-connection equipment (TA equipment) (904) of the client terminal A1 asks the IP address by

this telephone number "90022001" in LAN to server terminal A (IP address "129.60.10.1"). TCP or UDP is used as a protocol of an inquiry.
[0049] Since the number of the beginning of the telephone number in LAN of server terminal A (902) is "9", these 4 figures of the beginning judge that it is a server management number, searches the server managed table (912) within the end of a local, obtains the IP address "129.60.20.1" of server terminal B of a server management number "9002", and returns this IP address to the client terminal A1. The terminal-connection equipment (TA equipment) (904) of the client terminal A1 asks an IP address by the telephone number "90022001" in LAN to server terminal B (903) (IP address "129.60.20.1") shortly. Since a top number is "9", server terminal B (903) is recognized that 4 figures of the beginning are a server management number, and since "9002" is a server management number in the end of a local, it searches the terminal control table (915) in the end of a local, and it is the IP address (129.60.20.11" is obtained and this is returned to the client terminal A1.) of a terminal management number "2001."
[0050] To this IP address "129.60.20.11", the terminal-connection equipment (TA equipment) (904) of the client terminal A1 will apply call origination, a voice data packet will be transmitted [after connection] and received to the terminal of this IP address, and if this IP address "129.60.20.11" is received, it will start the communication by the telephone (914) and voice of the client terminal B1.
[0051] Like this example, those who telephone from the client terminal A1 should memorize only "90022001" of the telephone number in LAN of the client terminal B1 (server management number + terminal management number), time of an input decreases compared with the case where an IP address value is specified directly, and facility improves. Moreover, the user of the client terminal B1 also becomes unnecessary to open the IP address in the end of a local to the periphery.
[0052] [Example 3] view 12 shows the 3rd example of this invention. this example is an example when two or more telephones are connected to one set (TA equipment) of terminal-connection equipment and a terminal management number is given to each telephone.
[0053] The server terminal, the client terminal 1, and the client terminal 2 are connected to LAN connected by Ethernet. The client terminal 1 is used as a terminal-connection equipment (TA equipment) (1401) + telephone (1402), the terminal management number of this terminal-connection equipment (TA equipment) (1401) is set to "2001", and an IP address is set to "129.60.10.10." Moreover, although the client terminal 2 is too considered as terminal-connection equipment, it shall have three channels which connect a telephone and shall connect another telephone to each. The IP address of the terminal-connection equipment (TA equipment) (1403) of the client terminal 2 is set to "129.60.10.15." The terminal management number of the telephone 2-1 (1404) connected to the channel 1 of this terminal-connection equipment (TA equipment) (1403) "2011", The terminal management number of the telephone 2-3 (1406) by which the terminal management number of the telephone 2-2 (1405) connected to the channel 2 was connected to "2012" and the channel 3 is set to "2013." Moreover, the IP address of a server terminal (1407) shall be set to "129.60.10.1", and there shall be a terminal control table (1408) to which the above-mentioned terminal management number and above-mentioned IP address of a client terminal were made to correspond in this server terminal (1407). However, in this example, since, as for the client terminal 2, the terminal management number of three pieces is set up to one IP address, the channel number of equipment shall also be described by the terminal control table of this server terminal besides a terminal management number and an IP address.
[0054] Drawing 13 shows the example of the terminal control table (1408) at the time of having two or more terminal management numbers in one IP address. Moreover, the IP address "129.60.10.1" of a server terminal (1407) is registered into the client terminals 1 and 2.
[0055] In telephoning from the client terminal 1 to the telephone 2-3 (1406) connected to the client terminal 2, it inputs the terminal management number "2013" of the telephone 2-3 (1406) connected to the client terminal 2 from the telephone (1402) of the client terminal 1.
[0056] The terminal-connection equipment (TA equipment) (1401) of the client terminal 1 asks the IP address by this terminal management number "2013" to a server terminal (1407) (IP address "129.60.10.1"). TCP or UDP is used as a protocol of an inquiry.
[0057] A server terminal (1407) searches the terminal control table (1408) in the end of a local, obtains the IP address "129.60.10.15" and channel number "3" of a terminal management number "2013", and returns this to the client terminal 1.
[0058] If this IP address "129.60.10.15" and a channel number "3" are received, to this IP address "129.60.10.15", the terminal-connection equipment (TA equipment) (1401) of the client terminal 1 will attach a channel number "3" as additional information, and will apply call origination. The terminal-connection equipment (TA equipment) (1403) of the client terminal 2 establishes the communication with the telephone 2-3 (1406) connected to the channel 3 after connection and in self-equipment, transmits and receives a voice data packet, and starts the communication by the telephone (1402) and voice of the client terminal 1.
[0059] [Example 4] view 14 is the example into which the example which was equivalent to the 4th example of this invention, and was shown in the drawing 12 or the drawing 13 was developed more.
[0060] The configuration shown in drawing 14 is equivalent to the configuration shown in drawing 12 on the parenchyma. In drawing 14 , a client terminal is connected in the type where three sets (analog device) of telephone terminals have a common IP address in terminal-connection equipment (TA1), and the client terminal is connected in the type where two sets (analog device) of telephone terminals have a common IP address in terminal-connection

equipment (TA2).
[0061] Drawing 15 shows the example of a configuration of the terminal-connection equipment which holds two or more telephone terminals (analog device). the sign 11 in drawing -- the device control section and 12 -- the communications control section and 13 -- the network interface section and 14 -- the input signal recognition section and 15 -- the port-number setting section and 16-i -- in an answerback packet analysis means and 19, a call origination packet transceiver means and 20 express the call-in receptionist packet transceiver means, and 21 expresses [the speech processing section and 17 / LAN telephone number server inquiry means and 18] the data-packet processing section
[0062] A means by which the concerned terminal-connection equipment (TA) connects the terminal for two or more analog telephone networks (analog device), A means to have a channel (ch) number for discriminating two or more connected terminals for analog telephone networks, and to process voice data for every channel number, A means to set up the port number for data communication different for every channel number (port-number setting section 15), It is this LAN telephone number server (below the same **** as a "server terminal") at the time of communication start. being the same -- with a means (LAN telephone number server inquiry means 17) to transmit the inquiry packet containing LAN telephone number (below the **** same in addition as the "management number" told to the example 1 or the example 3 the same) of a connection place The partner Internet telephone terminal from this LAN telephone number server (below the same **** as a "terminal-connection equipment connection analog device") A means to receive the answerback packet containing an IP address and a channel number (answerback packet analysis means 18), [being same] A means to be a means to transmit the call origination packet which contains the port number for a data reception which the end of a local uses to the IP address in this answerback packet, and the terminal of a channel number, and to receive the call origination packet from the other party (call origination packet transceiver means 19), A means to receive the data from a partner in the port number contained in this call origination packet (means in the communications control section 12), While it has the means (speech processing section 16) which changes into analog voice the data received in this port, and is passed to the Internet telephone terminal of this channel number The analog voice inputted from the terminal for an analog telephone of this channel number is changed into voice data, and it has a means to transmit this voice data to a partner Internet telephone terminal by the port number for a reception of the partner Internet telephone terminal contained in this answerback packet. Moreover, it has a means (call-in receptionist packet transceiver means 20) to receive the call-in receptionist packet (for a receptionist port number to be included) from the other party when the end of a local is a call origination side, and to transmit the call-in receptionist packet (for a receptionist port number to be included) to the other party when the end of a local is a call-in side. Furthermore, the number inputted from the telephone has a means to judge a management number (LAN telephone number) or an IP address + channel number, and terminal-connection equipment (TA) has the means in the device control section 11.
[0063] In addition, although the port number corresponding to the channel number is used, in the communication by the communications protocol (TCP/IP) which is using internet etc., the concerned port number is a number for discriminating a specific process (program), and is described by the HDR of TCP/IP packet. In this invention, it uses in order to discriminate the same data addressed to an IP address for every different communication using the value which is different for every communication in this port number.
[0064] Drawing 16 shows the block diagram of LAN telephone number server. the sign 31 in drawing -- the device control section and 32 -- the communications control section and 33 -- the network interface section and 34 -- LAN telephone number offer means and 35 -- the command analysis section and 36 -- a control means and 37 -- in LAN telephone number description fraction and 40, an IP address description fraction and 41 express the channel number description fraction, and 42 expresses [a terminal control table reference processing means and 38 / a terminal control table and 39] return packet creation / sending-out means
[0065] The concerned LAN telephone number server has a means to describe the channel number which discriminates two or more Internet telephone terminals connected to LAN telephone number, the IP address of the terminal-connection equipment corresponding to this, and this terminal-connection equipment, a means to receive the inquiry packet containing LAN telephone number, a means to search the IP address and channel number of LAN telephone number in this inquiry packet, and a means to transmit the answerback packet containing the this searched IP address and a channel number.
[0066] As a means to describe LAN telephone number, the IP address of the terminal corresponding to this, and correspondence of a channel number, the terminal control table shown in drawing 17 is raised as an example.
[0067] Drawing 18 shows the example of a sequence at the time of call origination. At the time of communication start, in order to call the Internet telephone terminal (telephone 4) connected to another terminal-connection equipment TA2 in IP network from the call origination side Internet telephone terminal (telephone 3) connected to terminal-connection equipment TA1 in IP network, LAN telephone number assigned by the call-in side Internet telephone terminal (telephone 4) is inputted. A call origination side Internet telephone terminal (telephone 3) tells terminal-connection equipment TA1 to which inputted LAN telephone number was connected. Terminal-connection equipment TA1 which received this LAN telephone number transmits the inquiry packet which contained this LAN telephone number in LAN telephone number server. The IP address of this LAN telephone number server shall be beforehand set as terminal-connection equipment TA1.
[0068] This LAN telephone number server that received this inquiry packet searches LAN telephone number in this

inquiry packet with the terminal control table in a self-server, and obtains a target IP address and a target channel number. LAN telephone number server transmits the answerback packet containing the acquired IP address and the channel number to terminal-connection equipment TA1 of inquiry origin.

[0069] Terminal-connection equipment TA1 of inquiry origin which received the answerback packet transmits the call origination packet containing the channel number of the point to call to the terminal (TA2) of the IP address described in this return packet. Moreover, terminal-connection equipment TA1 chooses the telephone by which the Internet telephone terminal (telephone 3) of call origination origin was connected to the channel number of contact TA1 throat in the end of a local, or the port number used for a reception of voice packet data according to this channel number since it recognizes. The this selected port number for a reception is also contained in this call origination packet. By the channel number contained in the call origination packet which this received, contact TA2 recognizes the Internet telephone terminal (telephone 5) which should be called, and carries out the singing of the corresponding call-in side Internet telephone terminal (telephone 5) in the end of a call-in side edge which received this call origination packet. If arrival-of-the-mail operation is made in this telephone 5, this terminal-connection equipment TA2 will transmit a call-in receptionist packet to terminal-connection equipment TA1 by the side of call origination. Terminal-connection equipment TA2 by the side of a call in chooses whether the telephone which received a message was connected to the channel number of contact TA2 throat in the end of a local, and the port number used for a reception of voice packet data according to the channel number since it recognizes. In this call-in receptionist packet, this selected port number for a reception is contained.

[0070] Both terminal-connection equipment is carried out in this way, and each teaches mutually the port number used for a reception of a voice data packet, and can receive data correctly. moreover, the voice data packet sent to the port number is ******** of which channel number of a contact in the end of a local -- since it recognizes the thing, voice data can be sent to the right Internet telephone terminal (telephone)

[0071] Thus, two or more Internet telephone terminals connected to one set of terminal-connection equipment by managing an Internet telephone terminal and LAN telephone number by the IP address and channel number of terminal-connection equipment and each terminal-connection equipment changing the port number for a voice data-packet reception for every channel number, and both terminal-connection equipment notifying in advance the port number used for a reception of a voice data packet, and suiting are discriminated correctly, and it is enabled to perform speech communication. Consequently, one set of the terminal-connection equipment with one IP address becomes possible [managing two or more Internet telephone terminals].

[0072] Moreover, to the equipments which serve as an Internet telephone terminal by it one set, such as a personal computer, if a channel number is always 1, it will be set as the terminal control table. Thus, by setting up, Internet telephone terminals, such as personal computers other than terminal-connection equipment, also become possible [including in the system of LAN telephone number].

[0073] moreover, when the direct input of the number which shows an IP address input, and the IP address of terminal-connection equipment TA2 and the channel number of a telephone 5 is carried out from the telephone 1 connected to terminal-connection equipment TA1 The inquiry to LAN telephone number server is not performed, but the call origination packet in which contact TA1 contained the port number for a reception used for voice data style **'s at a telephone 1 is transmitted to direct terminal-connection equipment TA2 in the channel number of the telephone 5 of the point to call, and the end of a local. It is the same as that of the case where LAN telephone number server is used after contact TA2 received this call origination packet in the end of a call-in side edge.

[0074] Thus, the number inputted by the telephone connected to terminal-connection equipment judges whether they are LAN telephone number or an IP address, and even when there is no LAN telephone number server by calling a direct partner Internet telephone terminal in the case of an IP address, use of this terminal identification technique is attained.

[0075] It explains to a detail more, referring to drawing 14 and the drawing 17 . The case where LAN telephone number server is used is shown. The general-purpose personal computer (803) which serves as terminal-connection equipment (TA1) (801), terminal-connection equipment (TA2) (802), and an internet terminal in internet, and LAN telephone number server (804) It is. This terminal-connection equipment TA1 (801) An IP address is "129.60.10.21" and three telephones (805-807) are connected to channel number "1" - "3." Moreover, this terminal-connection equipment TA2 (802) An IP address is "120.60.10.22" and two telephones (808-809) are connected to channel number "1" - "2." moreover, general-purpose personal computer (803) **** -- a microphone (810) and loudspeaker (811) it connects -- having -- Internet telephone software (812) It is installed.

[0076] Telephone connected to terminal-connection equipment TA1 here (805) Internet telephone terminal 1 (LAN telephone number =2001), Telephone (806) Internet telephone terminal 2 (LAN telephone number =2002), Telephone (807) Internet telephone terminal 3 (LAN telephone number =2003), Telephone connected to terminal-connection equipment TA2 (808) Internet telephone terminal 4 (LAN telephone number =3001), Telephone (809) The Internet telephone terminal 5 (LAN telephone number =3002) and general-purpose personal computer (803) It considers as the Internet telephone terminal 6 (LAN telephone number =4001). Moreover, terminal-connection equipment TA1 (801) It sets and is the Internet telephone terminal 1 (805). The receive-port number to use is "5000" Internet-telephone terminal 2 (806). The receive-port number to use is "5002" Internet-telephone terminal 3 (807). The receive-port number to use presupposes that it is "5004." Moreover, it sets to terminal-connection equipment TA2, and is the Internet telephone terminal 4 (808). The receive-port number to use is "5000" Internet-telephone

terminal 5 (809). The receive-port number to use presupposes that it is "5002." moreover, LAN telephone number server (804) **** -- terminal control table (813) which has managed LAN telephone number, the IP address, and channel number of each Internet telephone terminal It is.
[0077] Terminal control table (813) An example is shown in drawing 17 . Moreover, drawing 19 shows the flow chart corresponding to the concerned processing. When calling the Internet telephone terminal 5 (809) connected to terminal-connection equipment TA2 from the Internet telephone terminal 3 (807) connected to terminal-connection equipment TA1 (LAN telephone number =2003), it is the Internet telephone terminal 3 (807) (LAN telephone number =3002). LAN telephone number "3002" of the Internet telephone terminal 5 is dialed (step S1).
[0078] Terminal-connection equipment TA1 (801) which received this signal LAN telephone number server of an IP address "129.60.10.1" (804) The IP address inquiry packet containing a partner's LAN telephone number "3002" is transmitted. The IP address of LAN telephone number server of a reference is terminal-connection equipment TA1 (801) beforehand. It should be registered (step S2).
[0079] LAN telephone number server which received this inquiry packet (804) Terminal control table in self-equipment (813) It searches and the IP address and channel number of LAN telephone number "3002" are searched (step S3).
[0080] Consequently, terminal-connection equipment TA1 (801) which IP address =129.60.10.22 of LAN telephone number "3002" and channel number =2 are obtained, and this value is put into an answerback packet, and is inquiry origin It transmits (step S4).
[0081] Terminal-connection equipment TA1 (801) which received this answerback packet To the terminal-connection equipment (TA2 (802)) of the IP address in this answerback packet, it is terminal-connection equipment TA1 (801). Internet telephone terminal 3 (807) The call origination packet containing the receive-port number "5004" used for a ** and a partner's channel number "2" is transmitted (step S5).
[0082] Terminal-connection equipment TA2 (802) which received this call origination packet Internet telephone terminal 5 (809) which obtains the channel number "2" in this call origination packet, and is connected to the channel number "2" of a contact in the end of a local It calls (step S6).
[0083] This Internet telephone terminal 5 (809) If arrival-of-the-mail operation is made Terminal-connection equipment TA1 (801) of call origination origin It receives and is terminal-connection equipment TA2 (802). Internet telephone terminal 5 (809) While the call-in receptionist packet containing the receive-port number "5002" used for a ** is transmitted Terminal-connection equipment TA1 (801) of this call origination origin Voice data is transmitted to the equipment of an IP address by the port number "5004" which was in this call origination packet (step S7).
[0084] Moreover, terminal-connection equipment TA1 (801) by the side of the call origination which received this call-in receptionist packet Terminal-connection equipment TA2 (802) Voice data is transmitted to the port number "5002" in this call-in receptionist packet to the equipment of an IP address (step S8).
[0085] thus, terminal-connection equipment TA1 (801) and terminal-connection equipment TA2 (802) **** -- voice data will be transmitted and received mutually and the speech communication of both directions is established to the receive port which mutual-boils and the Internet telephone terminal which should talk over the telephone uses
[0086] Moreover, in this example, although four digits were used for LAN telephone number, this number of digits can be changed according to the number of the terminals connected to a network. Moreover, although LAN telephone number server was setting to one into the network, when there are more than one, it can use similarly.
[0087] [Example 5] view 20 shows the example in the case of not using LAN telephone number server. The general-purpose personal computer (1003) used as terminal-connection equipment (TA1) (1001), terminal-connection equipment (TA2) (1002), and an Internet telephone terminal is in internet. It is "129.60.10.21" and the IP addresses of this terminal-connection equipment TA1 (1001) are three telephones (1004-1006). Channel number "1" It connects with - "3." Moreover, it is "120.60.10.22" and the IP addresses of this terminal-connection equipment TA2 (1002) are two telephones (1007-1008). Channel number "1" It connects with - "2." Moreover, a microphone (1009) and a loudspeaker (1010) are connected to a general-purpose personal computer (1003), and Internet telephone software (1011) is installed in it.
[0088] Let the Internet telephone terminal 4 and a telephone (1008) as the Internet telephone terminal 5, and let a general-purpose personal computer (1003) be the Internet telephone terminal 6 for the telephone (1007) by which the Internet telephone terminal 1 and the telephone (1005) were connected to the Internet telephone terminal 2, and the telephone (1006) was connected to the Internet telephone terminal 3 and terminal-connection equipment TA2 for the telephone (1004) connected to terminal-connection equipment TA1 here. Moreover, in terminal-connection equipment TA1 (1001), the receive-port number for which "5002" Internet-telephone terminal 3 (1006) uses the receive-port number for which "5000" Internet-telephone terminal 2 (1005) uses the receive-port number which the Internet telephone terminal 1 (1004) uses presupposes that it is "5004." Moreover, in terminal-connection equipment TA2, the receive-port number for which "5000" Internet-telephone terminal 5 (1008) uses the receive-port number which the Internet telephone terminal 4 (1007) uses presupposes that it is "5002."
[0089] Moreover, in terminal-connection equipment (TA1 (1001), TA2 (1002)), when the first input signal is "*", suppose that it is judged as that into which the IP address was inputted. In addition, drawing 21 shows the flow chart corresponding to the concerned processing.
[0090] When calling the Internet telephone terminal 5 (1008) connected to terminal-connection equipment TA2

from the Internet telephone terminal 3 (1006) connected to terminal-connection equipment TA1, the IP address "129.60.10.22" and channel number "2" of the Internet telephone terminal 5 are inputted as "*129*60*10*22**2" at the Internet telephone terminal 3 (1006). the first "*" -- it is shown that this input is an IP address input, intermediate "*" shows "." of the break of an IP address, and "**" presupposes that it is shown that henceforth is a channel number (step S9)

[0091] By top "*", terminal-connection equipment TA1 (1001) which received this signal recognizes that this is an IP address, and recognizes that a partner's IP address is "129.60.10.22" and a channel number is "2" from the following numbers (step S10).

[0092] Moreover, terminal-connection equipment TA1 (1001) transmits the call origination packet containing the receive-port number "5004" used for the Internet telephone terminals 3 (1006), and a partner's channel number "2" (step S11).

[0093] Terminal-connection equipment TA2 (1002) which received this call origination packet obtains the channel number "2" in this call origination packet, and calls the Internet telephone terminal 5 (1008) connected to the channel number "2" of a contact in the end of a local (step S12).

[0094] If arrival-of-the-mail operation is made at this Internet telephone terminal 5 (1008) While the call-in receptionist packet containing the receive-port number "5002" which terminal-connection equipment TA2 (1002) uses for the Internet telephone terminals 5 (1008) is transmitted to terminal-connection equipment TA1 (1001) of call origination origin Voice data is transmitted by the port number "5004" which was in this call origination packet to the equipment of the IP address of terminal-connection equipment TA1 (1001) of this call origination origin (step S13).

[0095] Moreover, terminal-connection equipment TA1 (1001) by the side of the call origination which received this call-in receptionist packet transmits voice data to the port number "5002" in this call-in receptionist packet to the equipment of the IP address of terminal-connection equipment TA2 (1002) (step S14).

[0096] Thus, terminal-connection equipment TA1 (1001) and terminal-connection equipment TA2 (1002) will transmit and receive voice data mutually, and the speech communication of both directions establishes them to the receive port which the Internet telephone terminal which should talk over the telephone to each other uses.

[0097] Moreover, in this example, although the full input of the IP address + channel number is carried out in order to specify a partner Internet telephone terminal, when the number of a high order is common among these numbers, it is also enabled to omit and input. In this case, let the omitted fraction be the thing of a contact to interpret it as an IP address being as common as an applicable fraction in the end of a local.

[0098] In addition, in the example shown in drawing 20 , even when LAN telephone number server does not exist in IP network, the call by the IP address + channel number is also enabled so that the telephone call by the Internet telephone may be attained. Therefore, in terminal-connection equipment, the number inputted from the connected telephone has a means by which LAN telephone number discriminates whether it is an IP address (+ channel number). Furthermore, when an IP address inquiry packet is transmitted to LAN telephone number server when the inputted number is discriminated from LAN telephone number, and the this inputted number is discriminated from an IP address (+ channel number), the call origination packet which put in a partner's channel number to the terminal-connection equipment of this IP address directly is transmitted.

[0099] In addition, although the 1st or 5th this example has described the case where Ethernet is used, this invention can be similarly applied, when dial-up connection was made from the general telephone network, or when FDDI and ATM are used as a network.

[0100] Moreover, in this example, although the terminal management number of the telephone number in LAN and the server management number used four digits, this number of digits can be changed with the number of the terminals connected to a network.

[0101]

[Effect of the Invention] When using an Internet telephone etc. if this invention is used as explained above, it is enabled to specify a partner terminal in inputting the telephone number-number of the telephone number in LAN, and is enabled to specify a partner terminal by simple technique compared with an IP address.

[0102] Moreover, it is enabled to hide an IP address from an user by using the telephone number in LAN as technique of discriminating a terminal. Moreover, since the telephone number in LAN is constituted only numerically, it becomes possible [using a simple input unit called a telephone and FAX as a client terminal].

[0103] Furthermore, as a client terminal, terminal-connection equipment (TA) and two or more analog devices are made to exist, and same LAN telephone number (management number) can be given to two or more analog devices connected to terminal-connection equipment.

CLAIMS

[Claim(s)]

[Claim 1] In the network where two or more client terminals have an IP address, respectively, and are held in LAN, while the server terminal with the IP address is connected to LAN Corresponding to each client terminal, a server's management number is given for the management number of a terminal corresponding to a server terminal. If the terminal control table which matched with the server terminal the management number and IP address of the client

terminal held in LAN is prepared and the management number of the 2nd client terminal is transmitted to a server terminal from the 1st client terminal The aforementioned server terminal is an Internet telephone terminal identification art characterized by searching a terminal control table and answering the IP address of the 2nd client terminal corresponding to the management number of a terminal to the 1st client terminal.

[Claim 2] In the network where two or more client terminals have an IP address, respectively, and are held in LAN, and between LAN is further connected by repeating installation (router) While the server terminal with the IP address is connected to each LAN Corresponding to each client terminal, a server's management number is given for the management number of a terminal corresponding to each server terminal. The terminal control table which matched with each server terminal the management number and IP address of the client terminal held in the same LAN, And the server managed table which matched the management number and IP address of the server terminal installed in different LAN is prepared. If the management number of the 2nd client terminal in the same LAN is transmitted to the server terminal in the same LAN from the 1st client terminal The server terminal in the same aforementioned LAN searches a terminal control table, and answers the IP address of the 2nd client terminal corresponding to the management number of a terminal to the 1st client terminal. If the management number of the server of the 2nd client terminal in LAN which is different from the 1st client terminal is transmitted to the server terminal in the same LAN The server terminal in the same aforementioned LAN searches a server managed table, and answers the IP address of the server terminal of different LAN corresponding to a server's management number to the 1st client terminal. Next, if the management number of the 2nd client terminal is transmitted to the server terminal of LAN different the account of a front through repeating installation, the 1st client terminal The server terminal of different LAN is an Internet telephone terminal identification art characterized by searching a terminal control table and answering the IP address of the 2nd client terminal corresponding to the management number of a terminal to the 1st client terminal the account of a front.

[Claim 3] In the network where two or more analog devices by which two or more client terminals have an IP address, are held in LAN, and correspond to a single IP address in at least one of two or more concerned client terminals are connected While the server terminal with the IP address is connected to LAN, it corresponds to a client terminal and the aforementioned analog device. the management number of a terminal The channel number which gives a server's management number and is mutually different corresponding to two or more aforementioned analog devices corresponding to a server terminal is given. The terminal control table which matched with the server terminal the management number, the IP address, and channel number of the client terminal held in LAN and the terminal corresponding to the aforementioned analog device is prepared. If the management number of one analog device in the 2nd client terminal is transmitted to a server terminal from the 1st client terminal The aforementioned server terminal is an Internet telephone terminal identification art characterized by searching a terminal control table and answering the IP address of the 2nd client terminal corresponding to the management number of a terminal, and the channel number of the concerned analog device to the 1st client terminal.

[Claim 4] A means by which terminal-connection equipment connects two or more aforementioned analog devices in the network in a claim 3 by the aforementioned client terminal consisting of terminal-connection equipment and an analog device, It has a channel number for discriminating two or more connected analog devices. Process voice data for every channel number, and the port number for data communication different for every channel number is set up. The inquiry packet which contains the management number of a connection place in the aforementioned server terminal is transmitted at the time of communication start. The answerback packet containing the IP address and channel number of the aforementioned partner terminal-connection equipment connection analog device from this server terminal is received. The call origination packet containing the port number for a data reception which the end of a local uses to the terminal-connection equipment connection analog device of the IP address in this answerback packet and a channel number is transmitted. The voice data from a partner is received in the port number contained in this call origination packet. Change into analog voice the voice data which received in this port number, and it passes to the analog device of this channel number. The analog voice inputted from the analog device of this channel number is changed into voice data. This voice data is transmitted to a partner terminal-connection equipment connection analog device by the port number for a reception of the partner terminal-connection equipment connection analog device contained in this answerback packet. The channel number which discriminates two or more analog devices by which the server terminal was connected to a management number, the IP address of the terminal-connection equipment corresponding to this, and this terminal-connection equipment is described. The inquiry packet which contains a management number from a terminal-connection equipment connection analog device is received. The Internet telephone terminal identification art characterized by transmitting the answerback packet which searches the IP address and channel number of a management number in this inquiry packet, and contains the this searched IP address and a channel number to the terminal-connection equipment connection analog device of inquiry origin.

[Claim 5] The aforementioned client terminal consists of terminal-connection equipment and an analog device in the network in a claim 3. The number as which terminal-connection equipment was inputted from the connected analog device has a means to judge a management number or an IP address + channel number. When the inputted this number is judged to be a management number, the inquiry of an IP address is performed to a server terminal. The Internet telephone terminal identification art characterized by transmitting a call origination packet to the partner terminal-connection equipment connection analog device of the IP address by which the direct input was carried out

when the inputted this number was judged to be an IP address + channel number, and a channel number.
[Claim 6] In the network where two or more client terminals have an IP address, respectively, and are held in LAN The server terminal with the IP address is connected to LAN. to each client terminal the management number of a terminal A server terminal comes to give a server's management number. a server terminal While it has the terminal control table which matched the management number and IP address of the client terminal held in LAN When the management number of the 2nd client terminal from the 1st client terminal is received The Internet telephone terminal identification processor characterized by having a means to search a terminal control table and to answer the IP address of the 2nd client terminal corresponding to the management number of the concerned terminal to the 1st client terminal.
[Claim 7] In the network where two or more client terminals have an IP address, respectively, and are held in LAN, and between LAN is further connected by repeating installation (router) The server terminal with the IP address is connected to each LAN. to each client terminal Each server terminal comes to give the management number of a terminal a server's management number. each server terminal The terminal control table which matched the management number and IP address of the client terminal held in the same LAN, And while it has the server managed table which matched the management number and IP address of the server terminal installed in different LAN When the management number of the 2nd client terminal in the same LAN from the 1st client terminal is received A means to search a terminal control table and to answer the IP address of the 2nd client terminal corresponding to the management number of the concerned terminal to the 1st client terminal, When the management number of the server of the 2nd client terminal in LAN which is different from the 1st client terminal is received A means to search a server managed table and to answer the IP address of the server terminal of different LAN corresponding to the concerned server's management number to the 1st client terminal, When the management number of the 2nd client terminal sent through the repeating installation from the 1st client terminal is received The Internet telephone terminal identification processor characterized by having a means to search a terminal control table and to answer the IP address of the 2nd client terminal corresponding to the management number of the concerned terminal to the 1st client terminal.
[Claim 8] Two or more client terminals have an IP address, and are held in LAN. In the network where two or more analog devices which correspond to a single IP address in at least one terminal-connection equipment in two or more concerned client terminals are connected The server terminal with the IP address is connected to LAN, and it corresponds to a client terminal and the aforementioned analog device. the management number of a terminal It comes to give the channel number which gives a server's management number and is mutually different corresponding to two or more aforementioned analog devices corresponding to a server terminal. a server terminal While it has the terminal control table which matched the management number, the IP address, and channel number of the client terminal held in LAN, and the terminal corresponding to the aforementioned analog device When the management number of one analog device in the 2nd [from the 1st client terminal] client terminal is received The Internet telephone terminal identification processor characterized by having a means to search a terminal control table and to answer the IP address of the 2nd client terminal corresponding to the management number of the concerned terminal, and the channel number of the concerned analog device to the 1st client terminal.
[Claim 9] A means by which terminal-connection equipment connects two or more aforementioned analog devices in the network in a claim 8 by the aforementioned client terminal consisting of terminal-connection equipment and an analog device, A means to have a channel number for discriminating two or more connected analog devices, and to process voice data for every channel number, A means to set up the port number for data communication different for every channel number, A means to transmit the inquiry packet which contains the management number of a connection place in the aforementioned server terminal at the time of communication start, A means to receive the answerback packet containing the IP address and channel number of the aforementioned partner terminal-connection equipment connection analog device from this server terminal, A means to transmit the call origination packet which contains the port number for a data reception which the end of a local uses to the terminal-connection equipment connection analog device of the IP address in this answerback packet, and a channel number, A means to receive the voice data from a partner in the port number contained in this call origination packet, The means which changes into analog voice the voice data which received in this port number, and is passed to the analog device of this channel number, The analog voice inputted from the analog device of this channel number is changed into voice data. The Internet telephone terminal identification processor characterized by having a means to transmit this voice data to a partner terminal-connection equipment connection analog device by the port number for a reception of the partner terminal-connection equipment connection analog device contained in this answerback packet.
[Claim 10] The aforementioned client terminal consists of terminal-connection equipment and an analog device in the network in a claim 8. A means to describe the channel number which discriminates two or more analog devices by which the server terminal was connected to a management number, the IP address of the terminal-connection equipment corresponding to this, and this terminal-connection equipment, A means to receive the inquiry packet containing a management number from a terminal-connection equipment connection analog device, A means to search the IP address and channel number of a management number in this inquiry packet, The Internet telephone terminal identification processor characterized by having a means to transmit the answerback packet containing the searched this IP address and a channel number to the terminal-connection equipment connection analog device of inquiry origin.

[Claim 11] The aforementioned client terminal consists of terminal-connection equipment and an analog device in the network in a claim 8. The number as which terminal-connection equipment was inputted from the connected analog device has a means to judge a management number or an IP address + channel number. When the inputted this number is judged to be a management number, the inquiry of an IP address is performed to a server terminal. The Internet telephone terminal identification processor characterized by having a means to transmit a call origination packet in the partner terminal-connection equipment connection analog device of the IP address by which the direct input was carried out when the inputted this number was judged to be an IP address + channel number, and a channel number.

[Claim 12] In the record medium with which the art in the network where two or more client terminals have an IP address, respectively, and are held in LAN is recorded To the concerned record intermediation inside of the body, while the server terminal with the IP address is connected to LAN Corresponding to each client terminal, a server's management number is given for the management number of a terminal corresponding to a server terminal. If the terminal control table which matched with the server terminal the management number and IP address of the client terminal held in LAN is prepared and the management number of the 2nd client terminal is transmitted to a server terminal from the 1st client terminal The aforementioned server terminal is a record medium used for Internet telephone terminal identification processing characterized by coming to record the program which searches a terminal control table and answers the IP address of the 2nd client terminal corresponding to the management number of a terminal to the 1st client terminal.

[Claim 13] In the record medium with which the art in the network where two or more client terminals have an IP address, respectively, and are held in LAN, and between LAN is further connected by repeating installation (router) is recorded To the concerned record intermediation inside of the body, while the server terminal with the IP address is connected to each LAN Corresponding to each client terminal, a server's management number is given for the management number of a terminal corresponding to each server terminal. The terminal control table which matched with each server terminal the management number and IP address of the client terminal held in the same LAN, And the server managed table which matched the management number and IP address of the server terminal installed in different LAN is prepared. If the management number of the 2nd client terminal in the same LAN is transmitted to the server terminal in the same LAN from the 1st client terminal The server terminal in the same aforementioned LAN searches a terminal control table, and answers the IP address of the 2nd client terminal corresponding to the management number of a terminal to the 1st client terminal. If the management number of the server of the 2nd client terminal in LAN which is different from the 1st client terminal is transmitted to the server terminal in the same LAN The server terminal in the same aforementioned LAN searches a server managed table, and answers the IP address of the server terminal of different LAN corresponding to a server's management number to the 1st client terminal. Next, if the management number of the 2nd client terminal is transmitted to the server terminal of LAN different the account of a front through repeating installation, the 1st client terminal The server terminal of different LAN is a record medium used for Internet telephone terminal identification processing characterized by coming to record the program which searches a terminal control table and answers the IP address of the 2nd client terminal corresponding to the management number of a terminal to the 1st client terminal the account of a front.

[Claim 14] Two or more client terminals have an IP address, and are held in LAN. In the record medium with which the art in the network where two or more analog devices which correspond to a single IP address in at least one of two or more concerned client terminals are connected is recorded To the concerned record intermediation inside of the body, while the server terminal with the IP address is connected to LAN It corresponds to a client terminal and the aforementioned analog device. the management number of a terminal The channel number which gives a server's management number and is mutually different corresponding to two or more aforementioned analog devices corresponding to a server terminal is given. The terminal control table which matched with the server terminal the management number, the IP address, and channel number of the client terminal held in LAN and the terminal corresponding to the aforementioned analog device is prepared. If the management number of one analog device in the 2nd client terminal is transmitted to a server terminal from the 1st client terminal The aforementioned server terminal records the program which searches a terminal control table and answers the IP address of the 2nd client terminal corresponding to the management number of a terminal, and the channel number of the concerned analog device to the 1st client terminal. The record medium used for Internet telephone terminal identification processing characterized by becoming.

[Claim 15] In the record medium with which the art in the network in a claim 14 is recorded A means by which terminal-connection equipment connects two or more aforementioned analog devices to the concerned record intermediation inside of the body by the aforementioned client terminal consisting of terminal-connection equipment and an analog device, It has a channel number for discriminating two or more connected analog devices. Process voice data for every channel number, and the port number for data communication different for every channel number is set up. The inquiry packet which contains the management number of a connection place in the aforementioned server terminal is transmitted at the time of communication start. The answerback packet containing the IP address and channel number of the aforementioned partner terminal-connection equipment connection analog device from this server terminal is received. As opposed to the terminal-connection equipment connection analog device of the IP address in this answerback packet, and a channel number The call origination packet containing the port number for a data reception which the end of a local uses is transmitted. The voice data from a partner is

received in the port number contained in this call origination packet. Change into analog voice the voice data which received in this port number, and it passes to the analog device of this channel number. The analog voice inputted from the analog device of this channel number is changed into voice data. This voice data is transmitted to a partner terminal-connection equipment connection analog device by the port number for a reception of the partner terminal-connection equipment connection analog device contained in this answerback packet. The channel number which discriminates two or more analog devices by which the server terminal was connected to a management number, the IP address of the terminal-connection equipment corresponding to this, and this terminal-connection equipment is described. The inquiry packet containing a management number is received from a terminal-connection equipment connection analog device. The IP address and channel number of a management number in this inquiry packet are searched. The record medium used for Internet telephone terminal identification processing characterized by coming to record the program which transmitted the answerback packet containing the searched this IP address and a channel number to the terminal-connection equipment connection analog device of inquiry origin.

[Claim 16] In the record medium with which the art in the network in a claim 14 is recorded The aforementioned client terminal becomes the concerned record intermediation inside of the body from terminal-connection equipment and an analog device. The number as which terminal-connection equipment was inputted from the connected analog device has a means to judge a management number or an IP address + channel number. When the inputted this number is judged to be a management number, the inquiry of an IP address is performed to a server terminal. So that a call origination packet may be transmitted to the partner terminal-connection equipment connection analog device of the IP address by which the direct input was carried out when the inputted this number was judged to be an IP address + channel number, and a channel number The record medium used for Internet telephone terminal identification processing characterized by coming to record the program carried out.